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New Media Competition and Access: The Scarcity-Abundance Dialectic

by

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Introduction [1]

The continuing proliferation of digital information and communication technologies and new media services promises growing abundance of opportunities to forge new kinds of social and economic communities. Increasing numbers of people are becoming entranced by the new technical capacities to create, process and store vast quantities of electronic information and to construct ever higher capacity telecommunication networks.[2] It is often argued that any existing constraints on access to the new information and communication environments will disappear as services decline in price and as customers and producers engage in market relationships approaching the ideal of a perfectly competitive market.[3]

Effective competition and price reductions in the information and communication services markets reflecting the cost characteristics of the new technologies are expected to reduce the potential for firms to monopolise markets using the strategies they adopted in the past. Although the former monopoly telecommunication operators may retain their dominant positions in their core markets, new entrants and technological innovation will produce new network architectures and protocols such as those that make up the Internet. This will encourage market strategies consistent with a fully competitive market model. Open electronic networks and platforms for the exchange of information will provide a new foundation for economic growth and social development. The new technologies will enable more direct relationships between consumers and producers and between citizens and governments leading to more efficient and socially beneficial outcomes. Following this line of argument, the relative scarcity of communication and information access opportunities of the past should be dispelled by the forces of technological innovation and competition. Increasing diversity or abundance in the modes of access to electronic information and communication networks will produce benefits for all consumers and citizens.

The aim of this paper is to illustrate the faults in this vision of Internet and new media services development. Hegel and Rayport (1998) suggest that electronic information services markets are evolving to encourage direct interaction between producers and consumers in markets where consumers have very complete information about goods

and services enabling them to exert substantial control (see also Brown and Duguid 1998). The vision of an open, fully competitive information and communication services market is increasingly in evidence in discussions about the potential benefits of new services such as electronic commerce. The entry into the market of many new Internet service suppliers is frequently associated with the demise of intermediary services that traditionally have mediated market relationships between consumers and producers, with increased competition, and with a growing diversity or abundance of choice for citizens and consumers (Department of Trade and Industry 1998).

In this paper, it is argued that the new electronic environment will not be immune to forces of monopolisation nor will it give rise to an era of market competition that fully protects the interests of consumers and citizens in the manner suggested by some market analysts. In fact, electronic intermediary services providers are populating the new markets and deploying strategies that are no less informed by monopolisation strategies than in the past. The very real explosion of technological opportunity is supporting growing abundance of network access possibilities. It is also facilitating the provision of enormous amounts of information for consumers and citizens. At the same time, existing companies in the telecommunication market and new intermediary information service firms are seeking innovative ways of controlling and shaping citizen and consumer access. They are doing so in ways that are consistent with the inescapable dynamics of the tensions between abundance and scarcity in the market place. If revenues (and profits) are to be secured by existing and new network and information service suppliers, then means must be found to constrain abundance of supply when this threatens to become a persistent characteristic of the market. The evolution of one segment of the electronic intermediary market is explored in this paper to illustrate the characteristics of emerging Internet market dynamics. Portal firms including those such as Yahoo! and Excite began as providers of search engines or directories for World Wide Web users. These firms are migrating their services to provide major ports of entry, gateways, and hubs for web-based commercial services.

Universal access in the communication field is usually confined to a focus on telephone service provision. Even when access policies are discussed for new areas, it is often assumed that the emerging strategies of market players will involve

monopolisation in the same form as the past. Alternatively, it is assumed that the capacity for monopolisation leading to scarcity in the market and the potential for social exclusion has been diminished by technological innovation. Arguments in favour of developing access policies for the Internet are weakened by the absence of systematic analysis of the strategies of the new Internet firms. The following section outlines the significant forces contributing to the interplay between technological innovation and the evolution of electronic goods and services markets. This is followed by a discussion of the social factors that contribute to uncertainty in the new media markets. Evidence of strategies of existing players and new entrants that have sought to control access to electronic information and communication services is summarised to highlight some of the ways in which suppliers manoeuvre to create scarcity followed by a more detailed analysis of the very recent strategies for control in the Internet portal services market. The views of the proponents of the need to extend universal access concepts into virtual Internet environments are then contrasted with the views of the opponents who envisage a market-led evolutionary process accompanied by enabling policies to support the market such as trade practices legislation or policies for authentication of electronic signatures. The implications of monopolisation forces for access to networks and information services are considered in a further section where it is concluded that policies will be needed if the accessibility of public spaces in the virtual landscape is to be preserved.

The analysis of the portal services market suggests implications for access policies even at this relatively early stage of Internet service market development. This emerging markets is characterised by complex relationships between goods and service producers, electronic intermediary firms, and communication and information service users. At present, intermediaries are constrained in their bids to monopolise the new markets by the very real potential for consumer resistance to unduly intrusive behaviour. Nevertheless, the new firms do have incentives to control access to information and to influence the user's patterns of navigation through the Internet. These possibilities and their implications need further systematic investigation to provide an empirical foundation for advocacy of new communication and information access policies. Such policies will need to be consistent with citizen and consumer

interest in virtual communities and in electronic market relationships that do not give rise to new forms of social exclusion.

The new media access dialectic

The rapid growth of communication network capacity and electronic sources of information is threatening the economic interests of many existing firms on the supply side of the new media markets. In the telecommunication services market, for example, new entrants are challenging the former monopoly operators. The persistent abundance of transmission capacity in some segments of the network infrastructure, together with technical innovations that have spurred the spread of the Internet and yielded World Wide Web browser interfaces, have produced new market entry opportunities for hundreds of insurgent companies. In the face of persistent abundance of capacity and stocks of digital information, existing and new players are looking to the Internet and digital content as a new stimulus to economic growth. The emergence of new strategies designed to monopolise emerging markets to secure a condition of relative scarcity is to be expected. There are few, if any, grounds however for assuming that the outcome will consistently favour the interests of all those who need access to the new networks and services.

The observation that abundance is inimical to scarcity in the marketplace for goods and services is not a new one. As J M Clark (1961) argued, the manifestation of competition and persistent variety of technologies and services is not a sufficient basis for concluding that forces of monopolisation which create the appearance of scarcity are disappearing from the market. He suggested that ‘monopolization refers not to monopoly as such, but to the activities of firms (usually dominant ones) who are seeking to build up, or maintain, a position of market power’ (Clark, 1961: 21). The implications of this process have been analysed for the telecommunication market (Mansell, 1993), but so far there has been little or no attempt to assess the extent or articulation of this process in the emerging Internet market. The interplay of competition and monopolisation persists in the new media markets as technological innovation gives rise to increasingly abundant supplies of network capacity and digital information. As Trebing (1998) has argued, creative players in the market are

intensifying their efforts to achieve profitability in the new electronic territories of the Internet. Success will require innovative monopolisation strategies as Trebing and Estabrooks (1995) have shown in their analysis of the transformation of the United States information and communication services sector.

The market entry strategies of new firms in the World Wide Web intermediary service market that are examined later in this paper illustrate how the tensions between the potential for sustained abundant or near-universal access to networks and information services and the need to control supply to achieve economic growth and profits are being worked out. Incumbent firms and new entrants are adopting new, and frequently subtle, monopolisation strategies.

The analogy between the dynamics of market forces in the Internet and a dialectical relationship between abundance and scarcity is used in this paper to emphasise the symbiotic relationship between technological innovation leading to expansion of communication and information markets and price reductions, on the one hand, and the innovative strategies of suppliers leading to price increases and sustained apparent scarcity in key segments of the market, on the other. This dialectical interplay has been shown to give rise to methods of controlling markets in ways that are consistent with supplier interests in profits. A variety of business models is enabling communication network operators and electronic information providers to generate revenues directly from the provision of services, indirectly through the sale of related goods or services, or on the basis of advertising. The dialectical relationship between scarcity and abundance is present in all capitalist markets, but it is materialising in some new ways with the commercialisation of the Internet. [4]

Enthusiasts who envisage a long run trend toward perfectly competitive markets for new communication and information services that resemble the model of a market in which no player achieves dominance permitting it to control or limit supply, offer a misleading vision of the future. Their conclusions about market outcomes that will benefit all citizens and consumers are derived from hypothetical models of idealised markets or simply from observation of declining barriers to entry and exit in the communication and new media markets. Developments in the Internet service market

lead such enthusiasts to suggest that there will be an early demise of intermediary services. This conclusion holds, however, only if the underlying dynamics of the new markets are ignored. There is increasing competition in the new electronic markets and there is growing abundance of network access and electronic information supply. There are certainly instances of opportunities for consumers to participate directly in electronic markets for goods and services unaided by intermediary firms. Nevertheless, the dynamic of market evolution is inexorably at work. Strategies aimed at variety reduction and at creating relative scarcity of supply are emerging to address the new virtual markets and incumbent and insurgent intermediary firms are experimenting with new business models.

Competition and increasing network capacity are forcing prices downwards and the profit margins of firms in the traditional segments of the telecommunication industry are likely to continue to be squeezed. There are two likely outcomes. First, incumbent telecommunication companies will seek opportunities to enter potentially more profitable markets that are complementary to their existing strengths. Second, existing and new firms will target the newer segments of the new media marketplace in the hope of generating new sources of revenues and profits. The 'portal' web intermediary service suppliers are a good example of the deployment of monopolisation strategies to achieve their commercial goals. The telecommunication operators and other incumbents in the electronic information services industry, i.e. database providers, broadcasters and publishers, have yet to move aggressively into the portal market despite the market potential and their existing strengths.

The emerging strategies of the new intermediary portal firms are difficult to detect because there is considerable experimentation to discover viable ways of commercialising the new electronic spaces. If the new firms fail to secure a basis for maintaining conditions of relative scarcity, they will either withdraw or become integrated within a wider range of Internet services. Present developments suggest that the new entrants will build on their first mover advantages to exploit the commercial potential of the Internet. The new portal firms have yet to report profits despite their high valuation by the stock market. A contributing factor to the uncertainty surrounding the commercial sustainability of these electronic intermediary

services is that strategies used in conventional markets to control or influence consumer behaviour cannot be transferred directly into electronic space.

Market Uncertainty and the Social Process of Consumption

The conditions under which consumers will be willing to pay directly or indirectly for information services provided by electronic intermediaries are beginning to be explored but a clear market model has yet to emerge. Citizens and consumers are social actors and they are capable of a wide variety of actions and reactions to innovative developments in technologies and services. This has been confirmed by marketing studies of consumer behaviour and by research on the social processes involved when consumers (and citizens) introduce new information and communication technologies and services into their homes. The results of studies of the consumption of these technologies and services contrast sharply with the assumed predictability and rationality of consumer behaviour that is embedded in conventional economic models of competitive markets. Marketing studies suggest that building customer relationships with intermediaries or directly with goods and services suppliers involves substantial trust. Trust is proving difficult to develop in virtual environments as shown by studies by Hagel and Armstrong (1997) and Wyland and Cole (1997).

The results of studies of the social dynamics of user resistance to, and acceptance of, innovative goods and services especially in the information and communication technologies field, suggest that there is every reason to be cautious about citizen and consumer acceptance of electronic intermediary services. For example, research by Silverstone and Haddon (1996, 1997) has shown that consumers may lack the necessary skills and competencies to participate in the new markets or they may not perceive the value or usefulness of new media and other services.

Consumers can be excluded from participating in electronic environments by the supply-driven economics that influence the availability of network access and the costs of electronic information. They can also be excluded by the social character of the consumption process. Silverstone and Haddon (1997) have argued that

participation requires ‘access’ as well as ‘accessibility’. Some users may not value the increasing accessibility that is associated with using the new electronic intermediary services. For instance, they may try to limit their accessibility in order to protect their privacy. They may resist intrusions by intermediary firms. Thus, the relative scarcity of opportunities to access networks and electronic information, and of opportunities to be accessed by service providers may be a preferred condition for some people. Citizens and consumers may want to limit their accessibility to Internet suppliers to reduce the costs associated with the challenge of selecting between a large variety of alternative services in the market or to protect themselves from unwanted intrusions. The practice of sending unsolicited electronic mail, or ‘spamming’, corresponds to the direct mail industry’s use of postal communication and there are examples of the negative reactions of Internet users.

If complex social processes influence the acceptance of, and resistance to, information and communication technologies and services that emerged before to the spread of the Internet, there are also likely to be present in the virtual world. Silverstone and Haddon (1996: 60) suggest that the innovation process involves a process of ‘domestication’ - ‘In this process new technologies and services, by definition to a significant degree unfamiliar, and therefore both exciting but possibly also threatening and perplexing, are brought (or not) under control by and on behalf of domestic users’. At present, there is insufficient empirical evidence to assess whether the capacity for resistance will be enhanced or eroded by engaging in complicated social or economic relationships within virtual communities as compared to the capacities that have been documented for the domestication of television, telephony, and stand-alone and on-line computer games. The case of portal service suppliers demonstrates the heightened sensitivity of supplier firms, not only to the structure of the new market, but also to the potential for consumer resistance to their services. It also shows that these new service suppliers are learning more effective ways of shaping the Internet market in line with their commercial interests.

Manoeuvring toward scarcity

The dynamic of the dialectic of abundance and scarcity in the new media market involves monopolisation strategies aimed at controlling access to networks and/or to electronic information products and services. Firms devise ways of limiting or controlling certain kinds of access to resources in order to secure their positions in the market. This section looks briefly at three well known examples of monopolisation strategies that have been devised to achieve relative scarcity in specific segments of the information and communication market. We then turn to an analysis of the new dynamics of the portal services market.

Established market dynamics

A first example of the established dynamics of the information and communication technologies and services market comes from the development of 'conditional access systems' or 'set top boxes' used to access information and entertainment media. In this case, if suppliers could 'capture' or 'lock-in' customers, their returns on investment in content could be safeguarded and their market shares maintained or extended. Technical standards provided a strategic tool for strengthening the position of the incumbents in the entertainment market. Most of the firms offering access to entertainment networks and services argued in favour of open access systems, but there have been claims that the largest players are achieving market dominance by controlling access to the Internet backbone infrastructure (Brock, 1995; Cook, 1996). Open system standards have yet to be agreed in key areas in the European market for high capacity switched and subscription services. Conditional access systems providers are emerging in the role of 'gatekeepers of access'. As one European Commission official put it, 'clearly there is only one thing worse than a national telecoms monopoly and that's a trans-national multimedia monopoly!' (Ungerer, 1996). The strategies of the dominant market players are creating scarcity conditions that benefit the content producers through their plans for development of the equipment for conditional access to electronic information products.

The protection of intellectual property rights in multimedia products and services such as CD-ROMs and interactive television offers a second illustration of monopolisation strategies in the emerging digital information markets (Mansell and Steinmueller, 1996). There are several ways of reducing security problems in the transfer of copyrighted information and they all have a cost. For example, technologies can be introduced into the infrastructure to prevent unauthorised reproduction of electronic works that are copyrighted, to create copy control schemes, or to link users to individual copies of information. Where technical methods for copyright protection have failed, measures have been taken to discourage copyright violations by introducing fines, etc. Multimedia products and services such as CD-ROMs and interactive television are protected by copyright. It is more economical to use pre-existing material to create these information products and services than to produce original content. However, complex copyright clearance procedures apply for the use of existing material and these systems can create significant barriers to the timely and efficient production of multimedia content. They can also limit the rate at which new material is produced. The result is relative scarcity in what might otherwise be a plentiful market. The larger media companies which own libraries of material or can finance large scale acquisitions of copyright licenses stand to benefit from these systems because they provide a mechanism for monopolisation and creating a perception of scarcity in the information content market.

A third example of the strategies devised by suppliers in new media markets to secure persistent scarcity is evident in the controversy over the registration of Internet Domain Names. The growing use of the Internet led to a substantial increase in the number of commercial ‘domain names’ that needed to be registered. Until 1996, registration was on a first come, first served basis and by early 1996, the growth rate of registrations was running at just under 70 per cent (Shaw, 1996), and a situation of potential scarcity of names was in sight. Proposals soon emerged from governments and Internet developers and users aimed at alleviating the scarcity of top level domain names. The ‘.com’ tag registration was controlled by a single private firm in the United States. The monopolisation strategy in this instance consisted of resistance to technical solutions that could have extended the number of names and eased the scarcity conditions that were enabling the private firm to profit from its control of the

'.com' tag. The attempt to forestall the introduction of a solution that would have alleviated the scarcity of Internet domain names was overcome to a degree with the establishment of top level national domain name registries in other countries including the United Kingdom, The Netherlands, and Switzerland (OECD, 1997).

These illustrations of attempts to control or monopolise different aspects of access either to networks or to information itself have been, and some cases, continue to be addressed through political negotiation, policy formation and implementation. In these cases, the primary motivation for policy makers has been to alleviate market distortions and to stimulate competition. The social aspects of the market dynamics have been in the background rather than the foreground. The traditional forms of monopolisation relying upon standards, copyright protection and monopoly supply are well known, but there is little understanding of the form and content of the strategies of the firms that are developing the Internet markets. An analysis of portal intermediary strategies offers some preliminary insights. The portal market is also attractive for analysis of access issues because it embraces both economic issues of competition and monopolisation as well as growing concerns about the implications of social exclusion from the emerging virtual Internet communities. Understanding of the potential for monopolisation leading to scarcity helps to demonstrate the need for active policy measures to support more broadly-based access to the Internet and to certain types of socially valued digital information resources.

Portal service suppliers as intermediaries

Internet portal service providers include companies such as Yahoo!, Excite, Infoseek, Tripod, RS Components, e-Bay, CitySearch, Auto-by-Tel and software supplier firms such as NetPerceptions and BroadVision. Table 1 shows a selection of these providers, the 'intelligent' search agents they are using, and the primary sources of their revenues.[5] These firms employ software agents and a variety of 'personalisation' techniques to establish relationships with visitors to their sites. Their primary aim is to influence consumer behaviour.[6]

Insert Table 1 about here

The firms in Table 1 encompass three tiers of portal activity. Top tier portals began as search engines or directories such as Yahoo! and include Excite, Infoseek and Netscape. Second tier portals are also virtual communities and include CitySearch, Tripod and eBay. Third tier sites are producer or service providers that encourage user interaction such as Auto-by-Tel and RS Components. In order for portal firms to succeed in the market they must secure user acceptance of their use of information that is conveyed to them either actively by the user or passively as a result of his or her interactions with web sites. The term portal is used in the Internet services trade press to describe a variety of tools and practices that are combined by the portal firm to provide a service to an Internet user. In effect, a portal service is a default interface to Internet web-based information (CNET 1998). Portal services are also described as doorways or major ports of entry to the Net, as channels akin to broadcast networks, and as programme channels. For example, Yahoo!'s 'audience' is about 33.3 million viewers. Portals also function as marquees that play major roles in achieving brand recognition for goods and services.

Portal services are expected to evolve from the provision of simple gateways into the Internet to become hubs or home bases for user access to information (Internet World 1998). To secure this goal, these service providers must persuade site visitors to spend time at their sites and to return to them, thus generating traffic and a potential basis for revenue generation. Portal firms aggregate and amalgamate various kinds of information about products and services in order to provide a basis for electronic commerce. The basic feature of the services is usually a database or directory which is structured and categorised for different communities of users. As increased traffic flows are achieved, portals engage in user profiling to segment users into communities of interest and various categories based on demographics. The profiling of users requires a considerable amount of human input and subjective choice. It is not accomplished simply by employing intelligent agents to track, store and analyse

bulk data. The software technology provides a tool for data collection but the skills needed to create a personalised user experience are the basis for competition between portal firms. These firms generally do not regard themselves as merchants, but they have the potential to become merchants of goods and services and creators of content. Portal services are an example of the new intermediaries for virtual environments that are locating themselves between other suppliers and the citizens and consumers who use the Internet. Success in this new intermediary market requires the personalisation of the services in order to generate revenues.

Portal services personalise their services by collecting information about users. Active participation involves the user in completing registration pages or making choices to customise or personalise the features of his or her home page. Site owners use the data to conduct searches that are responsive to the user's interests. Passive participation involves the use of tracking, monitoring and cookies as a basis for establishing more customer-oriented services.

Portal firms argue that they are very selective in the types of information they collect. Data for user profiles are compiled in aggregate and browsing patterns are not monitored in detail. Nevertheless, there is concern that users have very little privacy when they interact with these sites. Industry self-regulation is aimed at building trust and protecting the security of users. For example, TRUSTe, created by the Electronic Frontier Foundation, certifies that sites adhere to codes of information usage practice and policy. The Microsoft-owned, Firefly, has developed a secure Passport, and an other company, Engage Technologies, is attempting to establish TrustLabels. In Europe, the European Commission's Data Protection directive contains provisions that are intended to limit the use of personal information gathered via electronic interactions using Internet services (Data Protection Registrar 1998). The implementation of European legislation has only recently begun and self-regulatory initiatives have not spread as rapidly as TRUSTe and others would like to see. It is unclear therefore whether these measures will be sufficient to curtail potentially exploitative use by portals and other web-based intermediaries of information about citizens and consumers. In the United States, the Federal Trade Commission concluded as recently as 1998 that 'industry's self-regulation efforts to encourage

voluntary adoption of the most basic fair information practices have fallen short of what is needed to protect consumers' (Federal Trade Commission 1998).[7]

The business model initially adopted by portal service providers was based on advertising revenues but these firms are experimenting with a variety of new approaches as they become more sophisticated at personalising services. The newer models are described as selling 'prime real estate', targeted advertising, sponsorship and, most recently, the introduction of service charges, for example, by Netscape. Advertisers or sponsors pay for premier positioning on Web site advertising banners. Advertising placement is said to be based on how much has been paid and some portals acknowledge that there is some leeway for advertisers to influence this positioning. Conversion rates are used to determine whether site visits are being turned into purchases of advertised goods and services. Most sites maintain that they have an independent position with respect to the advertising industry that provides their revenues. According to one site owner, 'if we allow advertisers to buy results or limit them …, we won't be building or offering the biggest commerce product'.

Portal providers of web gateway sites recognise that there is a delicate trade-off between increasing user choice, increasing traffic flows and offering exclusive placements to advertisers. Acquisitions in this emergent market, such as ViaWeb by Yahoo!, are providing a basis for further segmentation of markets and for service differentiation. Some of these acquisition strategies suggest the direction of future monopolisation attempts. For example, portals are starting to construct closed communities for interaction. Throw, a service for building virtual communities, was acquired by the portal, Excite, to construct a wall around users in order to strengthen the customer's trust in the site as well as to deepen their analysis of information about user profiles. As portal providers are learning how to more effectively personalise their services, there is the beginning of a shift from open to closed virtual environments. The supplier monopolisation strategies are designed to produce a balkanisation of service offerings and to restrict Internet access for certain users or sponsor/advertiser to the closed spaces they are creating.

Revenue generating strategies include traffic sharing deals between service providers. Recirculation is the term that is used to describe arrangements whereby one portal search provider pays other providers to achieve a premier placement for a client at its site. The result is that searches refer users within a portal's information 'property' or partnerships. The sharing arrangements are complex and they are often exclusive to participating companies. They provide a basis for targeted marketing and cross selling of products and services. These affiliate systems are becoming important sources of revenue for some portal service providers. For example, E-Toys pays 25 % of the sale price to a referring affiliate; Amazon.com has 30,000 affiliates and shares from 5 to 15% of its sales (Karplinski 1998).

Portal service providers see their competitors as any firm that tries to attract the attention of citizens and consumers. The use of web tools makes it relatively easy for portal providers to mimic features of the services provided by market leaders. For example, when Yahoo.com, the market leader, redesigned its homepage, other providers such as AOL.com, eBay.com and Excite.com quickly followed. Competition between providers is based on the size of the portal's database which supports the companies' capacity to turn traffic (and attention) into profits generated by the sale of goods and services.

Differentiation through strategies intended to achieve a degree of monopolisation of the market is occurring on two fronts. The first involves the measures taken to increase the commitment of users to a site through various personalisation techniques. The second involves the supply side of the portal market where technology and content partnerships as well as mergers and acquisitions are providing a basis for generating increased traffic and potential revenues. In the first half of 1998, for example acquisitions outnumbered new entrant public offerings by suppliers by two to one (Thompson 1998)

The nascent market niche for portal service providers shows that users must perceive they have control over the web content that they access and over how they participate in virtual communities if personalisation is to occur. Personalisation is not being achieved by establishing direct one to one relationships between goods and services

producers and consumers. The portal owners are performing an intermediary role. Their strategies are aimed at aggregating content and influencing traffic flows (associated with user navigation strategies) through control of the structure of agreements between content providers, advertisers and portal services.

Users are encouraged to trust the site owner and to actively provide information that will assist in more accurate user profiling. Portal providers maintain that advertising placement does not influence search results, but they also acknowledge that placement of advertising is a highly subjective decision. Although portal service providers are seeking to maximise the number of users attracted to their sites, at the same time, they are focusing on building new neighbourhoods within virtual communities so that they can supply new revenue producing services.

The key to portal provider success in the market lies in whether they can continue to balance their efforts to empower users to access abundant information resources via their sites at the same time as they 'lock' them into using their services to generate revenues. Consumer resistance to betrayal of trust has an immediate effect. For example, Geocities.com, the fifth ranked site in the market, is facing legal action for its abuse of user data and privacy and many users have migrated to other sites. New ways of managing the balance between open access to information for users in the virtual environment, and creating boundaries and the appearance of scarcity of information, in order to develop a profitable market are continuing to be explored.

The following section considers these developments from a policy perspective. The key question is whether these emerging monopolisation strategies matter for citizen and consumer access to the virtual worlds of the information society. The section begins by reviewing the traditional treatment of telecommunication service access issues and then turns to some of the more recent arguments for new access policies that stem from expectations about the transformations in the networked society. If the virtual spaces controlled by portals and other intermediaries do become central to social and economic activities, then biases in the accessibility of the Internet and digital sources of information through monopolisation by portal and similar service providers will have strongly negative implications. Those who are excluded because

they lack either the skills or the resources to enter and transact in virtual space will also be disadvantaged.

Proponents and opponents of universalising Internet access

The sites where the dialectic of scarcity and abundance in new media markets is being played out are numerous. They include forums where standards for technical compatibility of innovative networks and services associated with the Internet are being developed. They extend into the board rooms of network operators, Internet Access Providers and the Web-based companies discussed in the previous section. All these players are intent on devising workable business strategies to exploit the commercial potential of the Internet. The policy arenas where the need for legislative and regulatory reform to address innovative new media markets are being discussed are equally numerous and, as recent analysis has shown, frequently uncoordinated in their actions (Mansell 1997).

If as Robins (1995) suggests, virtual, technically-produced spaces are becoming as pervasive as the 'real' at least in some countries and for some social and economic groups, then policy action is needed to protect the social and economic interests of consumers and producers in the new virtual spaces. The generic argument for policy action is consistent with the communication access policies of the recent past. The conditions for access to voice telephone service have featured as a major aspect of telecommunication policy in Europe over the last decade. Policy makers have sought to extend universal and affordable access to citizens and consumers. Policy measures and regulations have been designed and implemented to promote a measure of inclusion of the disadvantaged members of social and economic communities.

In the telecommunication industry, telephone service provision by Europe's public monopoly telecommunication operators led to varying rates of service diffusion and differential prices between the European Union member states (Garnham and Mansell, 1991). The European Commission's programme of telecommunication liberalisation and market restructuring during the 1980s and 1990s, resulted in policy measures to universalise access to telephony throughout the European Union

(European Commission 1996b). Universal access to telephony, measured either by household penetration rates or by affordability, has been relatively successfully promoted. Access to telephone service remains uneven between the less favoured regions and the wealthier countries in Europe and between socially and economically advantaged and disadvantaged individuals and groups. Nevertheless, there is a relatively strong policy consensus on the benefits of universal access to telephone services (European Commission 1996b). Policies and regulatory measures are expected to have spin-off benefits for the European economy and to contribute to European cohesion.

The emergence of the Internet raises new questions about what forms of policy and regulation are necessary to secure access and inclusion within the new virtual community social and market environments. If the forces contributing to monopolisation in the new markets are strong, then the absence of effective policy and regulatory measures will give rise to new forms of economic marginalisation and social exclusion as interactive communities become pervasive and more central to citizens' and consumers' social and economic lives. The example of portal service intermediaries indicates that there is potential for monopolisation of the virtual markets. This could lead to the exclusion of some citizens and consumers who are unable to access the Internet or who cannot afford the costs of information access.

There is little consensus in policy circles about the extent to which the principles guiding universal access to telephony should apply to the new Internet services. [8] Universal access to the new services entails more than access to an affordable telecommunication link. Home access requires a subscription to an Internet access provider, appropriate hardware and software, and skills beyond those needed to communicate effectively using the telephone (Mansell et al., 1998). In addition, despite the rapid growth of Internet services, the new service providers are developing nascent markets and providing access to information that complements existing commercial and public sources. At this stage in Internet's evolution, it is therefore difficult to argue that the absence of widespread access to the Internet and to affordable electronic information services is currently responsible for social or economic exclusion.

However, the projected rates of growth of Internet services involving electronic government, electronic commerce, and electronic public services including health care and education, suggest that the Internet could soon become essential to social and economic participation in society. Forecasts for rapid growth of electronic commerce and for the provision of electronic government (OECD 1998) have led certain members of the European policy community to argue for an extension of universal access concepts to some aspects of the new communication and media services. For example, the 'First Annual Report to the European Commission from the Information Society Forum' highlighted the importance of universal public access to basic electronic services (such as public information, education and health) on an affordable basis (European Commission, 1996c). The need for local access points at public libraries, schools and other community locations and for governments to take on the responsibility to make basic interactive services available to all irrespective of geographical location and at affordable prices was characterised by the Commission's High Level Group of Experts in 1997 as the 'essence' of universal service.

> 'Rather than becoming bogged down in discussions of minimum technical standards, we would argue that the universal service debate has to refocus on the functionality of services and alternative technologies…. We favour a much more socially oriented debate over the current emphasis on technology….there is a need to investigate in greater detail whether, in order to avoid exclusion and preserve regional cohesion, the existing concept of universal service should not be shifted in the direction of a concept of universal community service, extending universal service provision to incorporate a basic level of access to new information services, but limited in its obligation of universality to the educational, cultural, medical, social and economic institutions of local communities' (European Commission High Level Group of Experts 1997: 56).

There are others however who argue that some degree of exclusion from opportunities to participate in the new electronic environments is a necessary corollary to the deepening forces of competition in the nascent markets for electronic information and new media services (Xavier, 1997). They argue that the absence of affordable

Internet access may simply mean exclusion from a specific type of access in an environment where there are many substitutable modes of access to networks and to alternative sources of information. Based on the theoretical model of perfectly competitive markets, they suggest that the variety generated by new entry will lead to greater choice for consumers (and citizens) in terms of quantity and quality as well as to price reductions made possible by rapid technological innovation. According to this view, the Internet service markets are 'naturally' tending toward persistent abundance for consumer (citizen) choice. Policy intervention to broaden access, much less to secure universal access, to the new networks and services is unnecessary if the premises of this theoretical model hold.

Proponents of this argument are mainly the producers of information and communication services or representatives of firms or government programmes involved in technology-driven research and development activities. They tend to argue that access to networks and Internet services will be delivered by the dynamics of technological innovation and market-led development. They point to innovations and the proliferation of access technologies and services. Web TV, digital broadcasting, software for all applications, high capacity transmission systems and new Internet services are used as indicators of diversity and persistent abundance on the supply side of the industry.[9] In the absence of empirical studies, they claim that the new entrants like portals are building up virtual communities of citizens and consumers with the primary goal of maximising access to their sites and the vast stores of information on the Internet

Proponents of this view of market-led development also rely on diffusion statistics. They point to the fact that many consumers, public organisations and businesses now have affordable access to networks and are working and communicating on-line (OECD, 1996). Next year, i.e. 2000, some market analysts predict that, of the total number of television households in Europe, only 15 per cent will be using the Internet. However, some 40 per cent of households are expected to have home Personal Computers (Bernard et al., 1997). Forecasts for next year indicate that in Western Europe alone, there will be 52 million Internet users, with an additional 9 million in eastern Europe, compared to 76 million in the United States (European

Information Technology Observatory 1997). Market projections indicate continuing market expansion as well as the take-off of interactive multimedia and communication services including digital satellite and terrestrial television networks with pay television and pay-per-view channels. The number of available cable and satellite channels is expected to double every three years. Packages or 'bouquets' of channels plus access to the Internet, Internet Telephony and the World Wide Web are being designed to attract increasing numbers of citizens and customers (Passamonti et al., 1997).

This growing variety of network access arrangements and services is believed to be consistent with sustained market-led growth. Market-led growth is expected to produce flourishing competition making service providers ever more responsive to consumer demand. Imbalances between individuals and groups in society with respect to their access to the new networks and information services should be alleviated in the wake of a progression towards the sustained abundance and variety promised by technological innovation and declining prices due to the cost characteristics of the new networks and services (European Commission, 1996c: 95). The open computer platforms and transparent network interfaces associated with the Internet are said to be releasing dormant competitive forces in the market place and some go so far as to describe the Internet as a 'free market' (Spectrum Strategy Consultants 1996). Policy aimed at universalising access to the Internet and selected information services is expected to distort the flourishing market mechanism and lead to inefficient supply. It is acknowledged that the market mechanism may leave some consumers or citizens without certain kinds of access. In such cases, there may be grounds for social policies that do not differ from those applied in any other context (Cave et al., 1994). In short, no special policies are needed either to promote access to the Internet and digital content or to minimise the potentially negative effects of social or economic exclusion from such access.

This vision of a 'free' competitive Internet market is underpinned by two expectations which have been discussed and critiqued by Mansell and Steinmueller (1996) in the European context. First, price-led market expansion is expected as a result of liberalisation and privatisation, price reductions as a result of competition and

technological change, and highly elastic demand, i.e. price reductions produce greater demand for services. Lower prices are expected to bring substantial increases in the quantity of services leading to sustained abundance and alleviating the need for policy to promote Internet access. Due to the highly elastic nature of demand, increases in revenues are expected to fund investment in the infrastructure and new media content. Entry barriers for new firms will be removed enabling vigorous competition and widespread access to the new Internet services.

Second, demand which materialises 'just in time' is expected to ensure that any shortfall in revenues available for investing in the new networks and services is compensated by the rapid expansion of the market. The scale of investment needed to construct a universal, integrated, high capacity infrastructure to support the users of the Internet and ensure the network is accessible to large numbers of potential users is substantial. This makes it necessary to assume that consumer (or advertiser) spending will be sufficient to generate the necessary revenues for infrastructure construction and content creation. These assumptions are derived mainly from growth projections rather than from systematic analysis of the experiences of the firms that are building commercial Internet services.

In contrast to the European Commission's High Level Group of Expert's (1997: 28) assertion that the provision of new public services would serve as a 'potential engine for new, local, information-led, employment-intensive demand growth', the Commission's Directorate General XIII continues to hold to a definition of universal service that is rooted in the era of telephone supply which prevailed in the early 1990s. At present the minimum set of services that should be offered under universal service legislation is described as the provision of voice telephony service via a fixed connection which will also allow a fax and a modem to operate as well as the provision of operator assistance, emergency and directory enquiry services and the provision of public pay telephones (European Commission, 1996b). The Commission argues that it is necessary for European citizens and businesses to be able to communicate and interact whether by telephone, fax, e-mail or electronic media. It regards this as crucial and decisive for avoiding a 'two-tier' information society. Universal access discussions in recent years have focused on the feasibility of

extending the concept to cover new information services for consumers and citizens (Analysys Ltd., 1997). [10] The current definition of universal access to telecommunication services does not encompass measures to develop community-based access or the skills and training requirements for using the Internet.

It also does not take into account the implications of the strategies of the new Internet intermediaries. The current policy assumes that the trend is toward the growth of service environments that are widely accessible. The analysis of portal service suppliers in this paper suggests that there are economic incentives and business strategies in the web-based intermediary market that will orient the market towards securing the closure of virtual spaces. Such strategies represent bids both to protect users and to maximise profits. The effect will be to curtail the variety and abundance of access opportunities for some users.

Competition in telecommunication markets during the early era of telephony galvanised the public organisations and private firms to extend the reach and accessibility of their networks in both Europe (Davies, 1994) and in the United States (Mueller, 1997). Competition in today's expanding Internet market is stimulating network operators and information service suppliers to maximise the number of citizens and consumers that they attract to their web sites and to hold their attention. But the dialectic of abundance and scarcity means that, even in the face of the variety of networks, increasing capacity and large stocks of electronic information, the market incumbents and new entrants are facing the prospect of erosion of their profit margins. Dyson's (1997) analysis of Internet business strategies emphasises this pressure as a major driver. Renewed efforts to monopolise segments of the new media markets are in evidence. The monopolisation strategies of the web-based portal suppliers do not necessarily imply new forms of social exclusion. However, they are attempts to reduce the variety, and increase the price, of information services that can be accessed by the public. The implications for those whose access is curtailed or eliminated due to rising prices and controls over information access exerted by the Internet intermediaries are central issues for new media access policies.

Access to networks and information

Thus far, the calls for policy action for universal access to the Internet have come mainly from two constituencies. The first constituency sees any restrictions on access as being problematic for democracy and governance. The second sees the Internet as a signifier of a transformational space leading to a knowledge-based economy.

The first is exemplified by calls for action to ensure that various forms of electronic governance are accessible. For example, participants in the European Commission's Information Society Forum have argued that 'democratic processes require access to a wide variety of public information, entertainment, commercial, education and health services … *These should be provided to all*' (emphasis added) (European Commission, 1996c: 21). They have suggested that conflicts of interest between consumers, service providers, network operators, media professionals, publishers and users in the accessibility of information should be arbitrated and that there should be a transition to new definitions and implementations of universal 'access' policies.

Manuel Castells (1998) and other social theorists such as William Mitchell (1999) and Sherry Turkle (1999) have argued in line with the second concern, that the emergence of a knowledge-based economy calls for new forms of interactive learning that are interdependent with access to new information and communication technologies and services. Turkle (1999: 347) has recently suggested that, 'with the expansion of the Internet in the early 1990s, the social meanings of the personal computer have become more complex because each personal machine is now also a communication gateway'. In the emergent informational society envisaged by Castells (1998: 336), 'a new economy, the informational/global economy; and a new culture, the culture of real virtuality … underlies social action and institutions throughout an interdependent world'. Although increasingly dense and ubiquitous networks will enable open communication, Castells sees the dynamic of the informational society as one which spawns unequal outcomes.

The importance of widespread access to digitally encoded information is also increasingly being recognised as essential to the capacity to transact in electronic

space and to generate and apply new knowledge. Proponents of learning and knowledge generation as the new driver of economic growth such as Brown and Duguid (1998) and Lundvall (1992) argue that, without access to the new information resources, participation in global economic activities will be severely restricted. Detailed studies of firm based learning, for example by Nonaka and Takeuchi (1995) and Leonard-Barton (1995), have stressed the importance of access to electronic sources of information as a complement to the accumulation of tacit knowledge and as a foundation for competitiveness.

In the light of these perspectives, the case for the importance of universal access to the Internet and to digital sources of information seems increasingly strong. If the new intermediary firms such as portals restrict access to information by controlling and structuring virtual information spaces, the implications must be important for economic and social policy. The dominance of particular suppliers could suppress variety and exclude choices that would lead to a more inclusive environment. In the absence of policy to address the current dynamics of Internet service markets, the incremental development of intermediary markets is strongly reinforcing the strategies of the first movers.

The direct and indirect costs that must be borne by citizens and consumers who seek to participate in virtual relationships include the costs of equipment and training and maintenance in addition to the costs of network access and usage. These costs have been discussed in detail by Geuna and Steinmueller (1997) in their analysis of alternative models for individual, institutional and community based Internet access. Policies designed to promote access to the Internet and its services will need to be designed in recognition of the fact that simple network access, i.e. an affordable connection, is insufficient to ensure public participation in the new virtual communities. Policies will need to encourage technical training and skills acquisition to enable consumers and citizens to manage their relationships in virtual space.

Policies for Accessing the Virtual Landscape

The dialectal forces in the present phase of Internet evolution are generating abundant network access alternatives and electronic information resources. The nascent market for web-based portal services illustrates the potential opportunities for monopolising the new virtual information gateways. The dialectic of scarcity and abundance is producing new opportunities for firms to structure and control the types of access and information that are available to citizens and consumers. As Internet markets evolve suppliers will offer services to enable some users to bypass the public Internet by using closed Intranets and Extranets. As Alan Cane (1996), a British journalist who has reported on the telecommunication industry for many years has put it: 'the prospect [of Internet bypass] raises the spectre of a world divided further by a technology that many had hoped would help bring it together'.

Where the user is part of an institution that is an intensive user of communication and new media service applications, he or she may have access to the equipment and training that are necessary to use the Internet and web-based services effectively. However, some people will find that their access is restricted. Access policies will be needed to ensure that these people can acquire the skills and resources to participate in the benefits of the new services via their homes or through public institutions such as libraries, town halls, or museums, if they choose to do so.

Especially in the United States, as Agre (1998) suggests, it is imagined that the Internet will bring about a new state of 'unmediated intimacy'. However, the analysis of portal provider strategies in this paper suggests a different conclusion. The spread of the Internet is more likely to be associated with sophisticated ways of 'mediating' intimacy. The new intermediary services are being designed to generate revenues and profits through personalisation of services and the construction of new, and often protected, virtual neighbourhoods and markets. Market dynamics are generating incentives for the extension of market power into web-based commerce. The emergence of supplier dominance and control of the new Internet gateways will challenge policy makers to ensure that citizens and customers have access to some types of information services on an affordable basis.

The new services permit highly personal exchanges in electronic communities, but these exchanges are being mediated by the new information gateway providers. Their business success depends upon their capacity to profile user preferences. Some techniques require the active participation of users, while others require only their passive participation. If the new firms overstep the culturally influenced boundaries of personal privacy and commercial confidentiality, citizens and users may resist and reject their services. In today's market, while the potential exists for substantial intrusion by web intermediaries, there are alternative suppliers of services. Users can turn their attention elsewhere. If greater consolidation of the portal and wider web intermediary service markets occurs, this will raise serious issues for policy makers because it will provide a basis for intermediaries to shape the accessibility of Internet users.

The capacity of portal providers to screen out certain kinds of information without the knowledge of the consumer or citizen is already a significant issue at this early stage of the market's development. This aspect is arguably more salient for new media access policy at present than is the potential for breaches of trust caused by portal and other intermediaries' misuse of customer profiles. Systematic monitoring of portal and related services is needed to assess whether their assertions of independence from advertisers and clients are reflected in their practices. To the extent that they are not, policies will be needed to ensure access to socially valued information.

Conclusion

Policy makers will manoeuvre through economic and social transformations centred increasingly, but not exclusively, on electronic communication and information access. Existing policies and regulatory tools are focused on communication network access. Traditional strategies of monopolisation include the use of discount pricing, barriers to the interconnection of competing networks, and the adoption of proprietary standards. Technological innovation and market liberalisation are eroding possibilities for monopolising network access and a period of relatively sustained technological abundance is likely thanks to existing universal service policies.

However, the additional skills and training together with the costs that must be borne by the individual user to access the Internet, mean that universal network access policies will need to be extended to provide local community-based access alternatives and training.

The question of access to electronic information services, mediated increasingly by web intermediary firms, raises issues for new media access policy that go beyond those addressed in debates about privacy and consumer protection in electronic environments. Monopolisation of virtual spaces, as evidenced by the example of portal services, indicates that public policy must also address access to information content. Some citizens and customers may resist intensive interactions with electronic information service providers in order to protect their privacy or to cope with the social and behavioural consequences of increased surveillance. A collection of studies by Agre and Rotenberg (1997) on the relationships between technological innovation, personal concerns for privacy, and the effect of legislative measures for data protection, has already suggested that this is a possibility. However, citizens and consumers who are unaware of the way the electronic information spaces they access are being structured and controlled will not be empowered to select information in a way that is consistent with most understandings of democratic processes or with the ideal vision of a perfectly competitive market. The persistence of monopolisation in the Internet landscape indicates the need for policy to ensure that socially valued information resources are universally accessible to citizens and consumers.

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Table 1 - Portal Service Suppliers

Company	Description	Intelligent Agent(s) Used	Primary Revenue Stream
Yahoo!	Portal	Inktomi (S), Junglee (C)	Advertising and merchant placement
Excite	Portal	MatchLogic (S), Jango (C), (NetBot) (C)	Advertising and merchant placement
Infoseek	Portal	Quando (C)	Advertising and merchant placement
Tripod	Virtual Community	WiseWire (S)	Affiliate programme
Netscape	Portal	Net Search and 'Smart Browsing' (S)	Advertising and merchant placement
RS Components	Manufacturing Catalogue	BroadVision (S)	Sales
eBay	Online Auction	N/A	Commissions
CitySearch	Local City Guide	N/A	Banner advertising
Auto-by-Tel	Referral Service for New and Used Cars	Proprietary	Dealer subscriptions
NetPerceptions	Software Developer	Not Applicable	Sales
BroadVision	Software Developer	Not Applicable	Sales

Note: N/A = 'not available'; C = Comparative Shopping; S = Search Engine

Source: prepared by I. Schenk, SPRU, 1998.

Notes

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2 See for example Negroponte (1995) and Tapscott (1995).

3 See Leebaert (1998), Department of Trade and Industry (1998).

4 The term dialectic is used here to signify processes of change that arise from the interaction of opposites whereby each pair of opposites comprises a unity which contains and transcends opposing forces. Marcuse (1960) associated the dialectic with negation, a process which by analogy is similar to the dynamic of capitalism whereby the economic power to generate abundant supply is continuously countered by the economic power to limit supply, and producing periods of apparent scarcity or abundance of supply. Smythe (1960) analysed the dialectical process of change during the early history until the 1950s of the information and communication industries in the United States. Mosco (1996: 33) argues that '… dialectical thinking leads us to recognize that reality is comprised of both parts and a whole, organized in the *concrete totality* of integration and contradiction that constitutes social life'.

5 An intelligent agent is a computer program which can carry out tasks automatically from a brief, objective-specified task, as opposed to a procedural program which is the most common type. The agent carries out a set of tasks more or less regardless of outcome, unless selectivity is pre-set.

6 Web Portal service providers offer combinations of links, content (news,

business, sports headlines, quotes), personalised and customised web spaces, free email, content for downloading, discussion groups, shopping, directories and membership services.

7 For a survey of efforts around the world to govern Internet activities through formal regulation and self-regulatory measures, see Kizza (1998).

8 For a review of perspectives on ‘access’, see Samarajiva (1997).

9 See Bernard (1997) for a review of the variety of technological developments.

10 The report focuses on access to telecommunication services and establishes a penetration rate for candidates for new universal services at 75% of the potential user population, mobile telephony could be said to be approaching that target.